

# SW RGBHV Switcher Series

Two, Four, and Six Input Analog RGBHV and Stereo Audio Switchers



## COMMON FEATURES

- Inputs: Two, four, and six input analog RGBHV models with or without stereo audio; video on BNC connectors; audio on captive screw connectors
- Output: One set of female BNC connectors for video; one captive screw connector for audio
- Compatible with RGBHV, RGBS, RGsB, RsGsBs, HDTV, component video, S-video, and composite video
- 350 MHz (-3 dB) RGB video bandwidth
- Autoswitching capabilities
- Automatically detects which inputs have an active signal and reports this information through the RS-232 port
- RS-232 and contact closure remote control
- Internal international power supply
- Audio input gain and attenuation

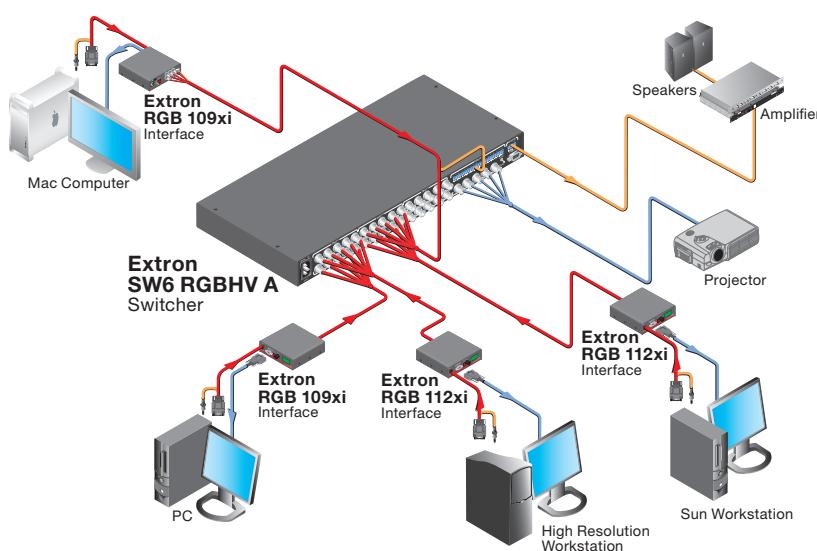
## DESCRIPTION

The Extron **SW RGBHV Series** are active analog RGBHV switchers using BNC connectors. There are six switchers in the series. The **SW2 RGBHV**, **SW4 RGBHV**, and **SW6 RGBHV** are two, four, and six input, one output RGBHV video-only switchers, respectively. The **SW2 RGBHV A**, **SW4 RGBHV A** and **SW6 RGBHV A** are also two, four, and six input, one output RGBHV switchers with audio.

All models allow multiple RGBHV, RGBS, RGsB, RsGsBs, RGB source inputs with composite video/sync or component video with stereo audio sources to be switched to one compatible display device. With 350 MHz (-3 dB) RGB video bandwidth, the SW RGBHV A Series switchers can support a wide array of high resolution signals.

The SW RGBHV A Series include captive screw audio connectors for balanced and unbalanced stereo audio sources. They also include adjustable gain and attenuation, allowing users to set the individual input audio levels, providing no significant difference in volume when switching between sources. All of the switchers can be controlled via the front panel buttons or through a 9-pin remote control port. The 9-pin female D connector enables RS-232 control, as well as contact closure control. They are also compatible with the Extron KP 6 Keypad Remote Control and the Extron IR 102 Kit IR remote.

Each switcher is user-configurable for manual or autoswitching modes. The autoswitch function can be enabled or disabled via a toggle switch on the back panel. Autoswitching allows any input of the switcher to be selected automatically when the switcher detects a sync signal. Two input models are half rack width, 1U metal enclosures that fit into an optional Extron 1U Universal Rack Shelf Kit. Four and six input models are 1U, full rack width and ship with rack ears.



Continued →

## SW RGBHV Switcher Series

**SW2 RGBHV**

Two Input Analog RGBHV Switcher

## UNIQUE FEATURES

- 1U, half rack width enclosure



## MODEL

## VERSION DESCRIPTION

## PART #

SW2 RGBHV

Two Input RGBHV.....

60-491-01

**SW4 RGBHV**

Four Input Analog RGBHV Switcher

## UNIQUE FEATURES

- 1U, full rack width enclosure
- Rack mount brackets included



## MODEL

## VERSION DESCRIPTION

## PART #

SW4 RGBHV

Four Input RGBHV.....

60-492-01

**SW6 RGBHV**

Six Input Analog RGBHV Switcher

## UNIQUE FEATURES

- 1U, full rack width enclosure
- Rack mount brackets included



## MODEL

## VERSION DESCRIPTION

## PART #

SW6 RGBHV

Six Input RGBHV.....

60-493-01

Continued →

## SW RGBHV Switcher Series

### SW2 RGBHV A

Two Input Analog RGBHV and Stereo Audio Switcher

#### UNIQUE FEATURES

- Switches RGBHV video and stereo audio on BNC and captive screw connectors
- Audio input gain and attenuation
- 1U, half rack width enclosure



#### MODEL

SW2 RGBHV A

#### VERSION DESCRIPTION

Two Input RGBHV & Audio

#### PART #

60-491-21

### SW4 RGBHV A

Four Input Analog RGBHV and Stereo Audio Switcher

#### UNIQUE FEATURES

- Switches RGBHV video and stereo audio on BNC and captive screw connectors
- Audio input gain and attenuation
- 1U, full rack width enclosure
- Rack mount brackets included



#### MODEL

SW4 RGBHV A

#### VERSION DESCRIPTION

Four Input RGBHV & Audio

#### PART #

60-492-21

### SW6 RGBHV A

Six Input Analog RGBHV and Stereo Audio Switcher

#### UNIQUE FEATURES

- Switches RGBHV video and stereo audio on BNC and captive screw connectors
- Audio input gain and attenuation
- 1U, full rack width enclosure
- Rack mount brackets included



#### MODEL

SW6 RGBHV A

#### VERSION DESCRIPTION

Six Input RGBHV & Audio

#### PART #

60-493-21

Continued →

225

USA  
714.491.1500 / 800.633.9876  
714.491.1517 FAX

Europe  
+31.33.453.4040 / +800.3987.6673  
+31.33.453.4050 FAX

Asia  
+65.6383.4400 / +800.7339.8766  
+65.6383.4664 FAX

Japan  
+81.3.3511.7655  
+81.3.3511.7656 FAX

[www.extron.com](http://www.extron.com)  
© 2007 Extron Electronics. All rights reserved.  
Pricing and specifications may change without notice.

**Extron**®

## SW RGBHV Switcher Series

## SW RGBHV Switcher Series Accessories

INCLUDED ACCESSORIES	MODEL DESCRIPTION	PAGE	PART #
<b>For SW4 and SW6 models only</b>			
MBD 149	1U, Full Rack Width, Rack Mount and Through-Desk Kit for Four-Piece Enclosure .. page 757	70-077-03	
<b>OPTIONAL ACCESSORIES</b>			
RSU 129	1U 9.5" Deep Universal Rack Shelf Kit .....	page 747	60-190-01
MBU 125	1U, 1/2 & 1/4 Rack Width, Under-Desk Mount Kit for Two-Piece Enclosure .....	page 743	70-077-01
CCR 204	Four-Button Contact Closure Remote .....	page 248	60-794-02
CCR 306	Six-Button Contact Closure Remote .....	page 249	60-795-02
KP 6	Keypad Remote Control .....	page 249	60-111-20
IR 102 Remote Control Kit	IR to RS-232 or Contact Closure Conversion Kit .....	page 242	70-224-01
RCAF-BNCM/10	RCA Female-BNC Male, Qty. 10 .....	page 720	100-229-01
CSR 6	Captive Screw - 2 RCA Female Adapter - 6" (15 cm) .....	page 725	26-575-01

## SPECIFICATIONS

## VIDEO

Gain .....	Unity.
Bandwidth .....	350 MHz (-3 dB)
Crosstalk .....	-70dB @ 10 MHz
Switching speed .....	5 ms (max.)

## VIDEO INPUT

Number / Signal type	
SW2 RGBHV/RGBHV A .....	2 RGBHV, RGBS, RGsBs, HDTV component video, S-video, composite video (or digital audio)
SW4 RGBHV/RGBHV A .....	4 RGBHV, RGBS, RGsBs, HDTV component video, S-video, composite video (or digital audio)
SW6 RGBHV/RGBHV A .....	6 RGBHV, RGBS, RGsBs, HDTV component video, S-video, composite video (or digital audio)
Connectors	
SW2 RGBHV/RGBHV A .....	2 x 5 female BNC
SW4 RGBHV/RGBHV A .....	4 x 5 female BNC
SW6 RGBHV/RGBHV A .....	6 x 5 female BNC
Nominal level .....	1 Vp-p for Y of component video and S-video, and for composite video
	0.7 Vp-p for RGB
	0.3 Vp-p for R-Y and B-Y of component video, and for C of S-video
Minimum / Maximum levels .....	Analog: 0.3 V to 1.5 Vp-p with no offset
Impedance .....	75 ohms
Return loss .....	<30 dB @ 10 MHz
DC offset (max. allowable) .....	5.0V
Input coupling .....	DC

## VIDEO OUTPUT

Number / Signal type	
SW2 RGBHV, RGBS, RGsBs, HDTV component video, S-video, composite video (or digital audio)	
Connectors	5 BNC female
Nominal level .....	1 Vp-p for Y of component video and S-video, and for composite video
	0.7 Vp-p for RGB
	0.3 Vp-p for R-Y and B-Y of component video, and for C of S-video
Minimum / Maximum levels .....	0.5 V to 1.5 Vp-p (follows input)
Impedance .....	75 ohms
Return loss .....	<30 dB @ 10 MHz
DC offset .....	±5 mV maximum with input at 0 offset

## SYNC

Input type .....	RGBHV, RGBS, RGsBs, bi-level and tri-level sync
Output type .....	RGBHV, RGBS, RGsBs, bi-level and tri-level sync
Input level .....	Analog or TTL, 0.5 V to 5.0 Vp-p
Output level .....	5.0 Vp-p, unterminated, for V output; H output follows input
Input impedance .....	510 ohms for V input and unselected H input; the selected H input impedance is determined by the device connected to the H output.
Output impedance .....	75 ohms for V output; the H output impedance is determined by the device connected to the selected H input.
Max. input voltage .....	5.0 Vp-p
Max. propagation delay .....	35 ns
Max. Rise / Fall time .....	4 ns
Polarity .....	Positive or negative (follows input)

## AUDIO (SW 2/4/6 RGBHV A ONLY)

Gain .....	-18 to +24 dB, adjustable
Note: When audio gain is set to unity (0 dB), balanced output will have a 0 dB gain; unbalanced output will be attenuated by 6 dB.	
Frequency response .....	20 Hz to 20 kHz, ±0.05 dB
THD + Noise .....	0.03% @ 1 kHz, 0.3% @ 20 kHz at nominal level
S/N .....	>90 dB at maximum output
Crosstalk .....	<-65 dB @ 20 kHz, <-80 dB @ 1 kHz or below 60 Hz
Stereo channel separation .....	>80 dB @ 20 Hz to 20 kHz
CMRR .....	>75 dB @ -20 Hz to 20 kHz

## DIGITAL AUDIO (ALL MODELS' H CHANNEL)

Input type .....	Dolby Digital, DTS, AES/EBU
Output type .....	Dolby Digital, DTS, AES/EBU
Bandwidth .....	250 MHz (-3 dB)
Sampling rates .....	32, 44.1, 48, 96 kHz
Input level .....	0.5 V to 5.0 Vp-p
Output level .....	2.5 Vp-p (when terminated with 75 ohms)
Input impedance .....	510 ohms for unselected inputs; for the selected input, impedance is determined by the device connected to the output
Output impedance .....	Determined by the device connected to the selected input
Max. input voltage .....	5.0 Vp-p
Max. propagation delay .....	35 ns
Max. Rise / Fall time .....	4 ns

## AUDIO INPUT (SW 2/4/6 RGBHV A ONLY)

Number / Signal type .....	2, 4, or 6 (depending on the model) stereo, balanced/unbalanced
Connectors .....	2, 4, or 6 (depending on the model) 3.5 mm captive screw connectors, 5 pole
Impedance .....	>10k ohms unbalanced, 20k ohms balanced, DC coupled
Nominal level .....	-20 dBV (100 mVrms), -10 dBV (316 mVrms), 0 dBV (0.775 Vrms), or +4 dBu (1.23 Vrms), configurable
Maximum level .....	+20 dBu, (balanced or unbalanced) at 1% THD+N
Input gain adjustment .....	-24 dBu, (balanced or unbalanced) at 1% THD+N
Input coupling .....	DC

## AUDIO OUTPUT (SW 2/4/6 RGBHV A ONLY)

Number / Signal type .....	1 stereo, balanced/unbalanced
Connectors .....	(1) 3.5 mm captive screw connector, 5 pole
Impedance .....	50 ohms unbalanced, 50 ohms balanced
Nominal level .....	-10 dBV (316 mV) or +4 dBu (1.23 V), configurable
Maximum level (Hi-Z) .....	>26 dBu, balanced; >+20 dBu, unbalanced at 1% THD+N
Maximum level (600 ohm) .....	>+21 dBm, balanced; >+15 dBm, unbalanced at 1% THD+N

## CONTROL / REMOTE — SWITCHER

Serial control port .....	RS-232, 9-pin female D connector (same as the contact closure port)
Baud rate and protocol .....	9600 baud, 8 data bits, 1 stop bit, no parity

Serial control pin configurations .....	2 = TX, 3 = RX, 5 = GND
Contact closure .....	9-pin female D connector (same as the RS-232 port)
Contact closure pin configurations .....	1 = input #1, 4 = input #2, 6 = input #3, 7 = input #4, 8 = input #5, 9 = input #6
Program control .....	Extron's control/configuration program for Windows® Extron's Simple Instruction Set (SIS™)

## GENERAL

Power .....	100 VAC to 240 VAC, 50/60 Hz, 20 watts, internal, autoswitchable
Rack mount .....	Yes, with optional 1U rack shelf, part #60-190-01 or 60-604-01
All other models .....	Yes, with included bracket kit, part #70-077-03
Enclosure type .....	Metal
Enclosure dimensions .....	SW2 RGBHV, SW2 RGBHV A .. 1.75" H x 8.75" W x 9.5" D (1U high, half rack wide) 4.4 cm H x 22.2 cm W x 24.1 cm D (Depth excludes connectors.)
All other models .....	1.75" H x 17.5" W x 8.5" D (1U high, full rack wide) 4.4 cm H x 44.5 cm W x 21.6 cm D (Depth excludes connectors.)

## Product weight

SW2 RGBHV .....	2.4 lbs (1.1 kg)
SW2 RGBHV A .....	2.5 lbs (1.1 kg)
All other models .....	7.0 lbs (3.2 kg)

## Shipping weight

SW2 RGBHV, SW2 RGBHV A ..	5 lbs (3kg)
All other models .....	12 lbs (6kg)